long term health outcomes for patients with T2DM. Compared with exenatide, the cumulative incidences of eye disease, renal disease, stroke event, and myocardial infarction event with liraglutide were reduced by 1.657%, 1.45%, 0.639% and 1.392% respectively. Liraglutide 1.2mg was associated with improvements in life expectancy of 0.109 years and 0.092 quality-adjusted life years (QALYs) versus exenatide. The costs of complications were reduced by 1,769 CNY (111,567 vs 113,336), resulting in a total direct medical cost saving of 7,626 CNY. These results indicated that liraglutide 1.2 mg was cost saving approach in comparison with exenatide. Sensitivity analyses demonstrated the robustness of results. **CONCLUSIONS:** The treatment of liraglutide 1.2 mg improved patient health and economic outcomes versus exenatide, and was a dominant treatment approach for T2DM patients in clinical practice.

PDB24

LONG-TERM COST-EFFECTIVENESS OF BIPHASIC HUMAN INSULIN 30 IN PEOPLE WITH TYPE 2 DIABETES WITH INADEQUATE GLYCAEMIC CONTROL ON ORAL ANTIDIABETIC DRUGS IN CHINA

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OBJECTIVES: To evaluate long-term cost-effectiveness of switching to biphasic human insulin 30 [Isophane Protamine Biosynthetic Human Insulin Injection (premixed30R)] in people with type 2 diabetes (T2DM) poorly controlled with oral antidiabetic drugs (OAD) in China. **METHODS:** The validated IMS CORE Diabetes Model (V8.5) was used to project long-term life years, quality-adjusted life years (QALYs) and costs over 30 years. Patients' baseline demographics and treatment effects were based on the published 8-week observational study in China. Hba1c deceased from 10.18% to 7.57 after initiating biphasic human insulin 30 (±metformin) for people uncontrolled with sulfonylureas and metformin, and hypoglycaemic events was 0.80 per patient-year during the study period. Treatment costs were calculated by multiplying retail prices in China and dosage used in the trial. Management and complication costs were obtained from published data in 2011 and inflated to 2012 with consumer price index. An annual discounting rate of 3% was used for both costs and health outcomes. One-way sensitivity analyses were conducted. **RESULTS:** It was projected switching to biphasic human insulin 30 improved life expectancy by 0.655 years (13.113 vs. 12.458) and quality-adjusted life-years by 0.609QALYs (9.270vs. 8.661) per patient. Biphasic human insulin 30 decreased cumulative incidence of most diabetes-related complications, and was associated with decreased management and complication costs of -6787 RMB (147066 vs. 153853).Although offset by higher direct treatment cost (54671 vs. 54366), switching to biphasic human insulin 30 was projected to lower total direct medical cost of -6482 RMB lower (201737 vs. 208219). Sensitivity analyses demonstrate robustness of result. **CONCLUSIONS:** Initiating biphasic human insulin 30 for OAD failures was projected to improve life expectancy and reduce lifetime direct medical costs. Switching to biphasic human insulin 30 was a cost-saving treatment option for people with T2DM insufficiently controlled with OADs in China.

PDB25

ECONOMIC EVALUATION OF INSULIN ANALOGS VERSUS HUMAN INSULIN FOR DIABETES: A SYSTEMATIC REVIEW

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OBJECTIVES: Systematically review published literatures comparing the cost-effectiveness of insulin analogs versus human insulin [NPH], by which provide evidence for relevant health decision-making and clinical treatment. **METHODS:** earch literatures about the economic evaluation of insulin analogs versus human insulin in Chinese and English literature database. Basic information, data sources and results of included studies were analyzed and reviewed. **RESULTS:** Twenty seven studies in 16 published papers carried out in Canada, USA, European, Australia and China were included in the review. The results in the studies were significantly inconsistent, which was perhaps mainly due to the different data source, model selection, time horizon and hypothesis. However, the public health institutes in Canada, UK, Germany and Australia had reported highly suspiciousness on the cost-effectiveness of insulin analogs for diabetes patients, especially for type II diabetes. **CONCLUSIONS:** In lack of powerful evidence, it has not reached an agreement about the cost-effectiveness of insulin analogs and human insulin for diabetes. In countries like Canada, UK, Germany and Australia, the reimbursement policies on insulin analogs were recommended with cautious. As China is a developing country, diabetes patients should select appropriate regimes even more cautiously according to local health care system, personal disease characteristics and affordability. Future studies, comparing the cost-effectiveness of insulin analogs with human insulin, should be conducted with longer time horizon and be based on updated and more reliable clinical data.

PDB26

PHARMACOECONOMIC EVALUATION STUDY ON PREOPERATIVE TREATMENT OF ACROMEGALY WITH SOMATOSTATIN ANALOGUES IN SHANGHAI

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OBJECTIVES: To carry on a pharmacoeconomic evaluation study on preoperative treatment of acromegaly patients with somatostatin analogues (lanreotide and octreotide) in Shanghai. **METHODS:** Through a retrospective clinical study with cost minimization analysis (CMA) from a perspective of health service providers, to collect 89 acromegaly patients' medical records in a sampling hospital from January 1, 2009 through June 30, 2013, then comparing the clinical effectiveness (the overall cure rate based on IGF-I values returned into normal range after 3 months of post-operation) and the direct medical costs including drug cost, medical consultation fees, and costs for diagostic procedures, hospitalization, treatment costs for adverse drug reactions (ADRs) and other costs arising from medical intervention among the sole surgical treatment group (35 cases), the group of preoperative treatment with lanreotide (36 cases), and the group of preoperative treatment with octreotide (18 cases). **RESULTS:** Based on the good compatibility of tumor size, postoperative average length of stay in hospital, biochemical indicators (IGF-I, GH) among the three groups, there was no statistical difference in the clinical effectiveness ($x^2 = 2.81$, $P = 0.250$). As to the total medical costs per case, both octreotide group and lanreotide group were higher than the sole operation group with a statistical significant ($F = 21.05$, $P = 0.000$), and the lanreotide group (70521 ± 25677 Yuan) was lower than the octreotide group (80283 ± 21486 Yuan) with the Median non-parametric test ($P = 0.037$). The sensitivity analysis showed that the cost advantage of lanreotide relected in prolonging the length of the preoperative treatment. **CONCLUSIONS:** According to the data of direct medical costs from the sampling hospital in Shanghai, lanreotide has more cost advantage comparing with octreotide.

PDB27

COST MINIMIZATION ANALYSIS OF CLINICAL OPTION SCENARIOS FOR METFORMIN AND ACARBOSE IN TREATMENT OF TYPE 2 DIABETES: BASED ON DIRECT AND INDIRECT TREATMENT COMPARISON RESULTS

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OBJECTIVES: Metformin is the first-line oral hypoglycemic agent for type 2 diabetes mellitus (T2DM) per international guideline with proven efficacy, safety and cost-effectiveness. However, little information exists comparing it with acarbose. This study aims to ascertain both the effectiveness and cost-effectiveness of these two extensively-adopted agents in treatment of T2DM. **METHODS:** Randomised Controlled Trials comparing metformin and acarbose with placebo and sulfonylureas were systematically reviewed from Chinese (CNKI) and English (PubMed) literatures. Meta-analysis and Bucher-method-based indirect comparisons were conducted to compare the hypoglycemic-effects of metformin and acarbose directly and indirectly by using common comparators. The weighted-mean-difference and 95%CIs were calculated. Cost-minimization analysis was performed from the perspective of medical insurance. Common clinical scenarios were set according to clinical practices and physicians' prescribing behaviors in China, which could mirror real-life cost data. **RESULTS:** The direct comparison (8 trials) indicated treatment difference between metformin and acarbose for reduction of HbA1c was -0.06% (95% CI, -0.32 to 0.20). In the indirect comparisons (67 trials), using placebo and sulphonylureas as common comparators, metformin achieved significant HbA1c reduction than acarbose, by -0.38% (95% CI, -0.736 to -0.024) and -0.34% (95% CI, -0.651 to -0.029) respectively. Cost-minimization analysis was conducted on the assumption that these two agents had same hypoglycemic effects. In the first two scenarios, acarbose was assumed to titrate from 50mg/day up to 150 mg/day (weight<60kg) or 300mg/day (weight>=60kg) as usual max-dose, and the annual-costs were ¥2,656.36 and ¥5,208.84. In the last two scenarios, metformin was assumed to titrate from 500mg/day up to 1500mg/day or 2000mg/day, while the annual-costs were ¥1,568.04 and ¥2,070.28. Metformin would achieve cost-savings by 22.06% to 69.90% than acarbose, and sensitive analysis demonstrated its robustness. **CONCLUSIONS:** Findings from this study are consistent with previous studies of metformin in other countries. Metformin has significant hypoglycemic-effects and low costs in China.

PDB28

COST MINIMIZATION ANALYSIS OF U100 INSULIN AND U40 INSULIN IN EGYPTIAN DIABETIC PATIENTS

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OBJECTIVES: The complications for the use of both concentrations U100 insulin (100 units [U]/ml) and U40 insulin (40 units [U]/ml) were not studied in Egypt. The objective of the study was a cost minimization analysis of the two available concentrations for U100 insulin and U40 insulin from the health care system's perspective. **METHODS:** A decision analysis model of patients with diabetes was constructed. Prevalence rate of diabetes in Egypt and complication rates of both the use of U100 insulin and U40 insulin were obtained from international published sources. Direct medical costs were derived from the Ministry of Health tender list. All costs were reported in Egyptian pounds of the financial year 2014. Deterministic sensitivity analysis was conducted. **RESULTS:** Total expected costs for U100 insulin and U40 insulin were LE 262,218,165 and LE 345,582,844 respectively. In the base case, the use of U100 insulin displayed a cost advantage over U40 insulin for the treatment of diabetic patients with a minimal percent of complications. The model resulted in total savings of LE 83,364,678 in favor of Insulin 100 units. Sensitivity analyses determined that the cost of U100 insulin and U40 insulin had the potential to impact the base case model. **CONCLUSIONS:** This cost-minimization study illustrates that Conversion to U100 insulin would result in lower overall treatment costs in patients with diabetes from the health care system's perspective. An intensive information campaign providing detailed advice for patients, physicians and pharmacists is essential for the prevention of medication errors and reduction of overall costs.

PDB29

COST UTILITY OF DIABETES DRUGS USING HBA1C AS A DIRECT PREDICTOR FOR QUALITY OF LIFE, DIABETES COMPLICATIONS AND MORTALITY

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OBJECTIVES: Cost utility analyses (CUA) of diabetes treatments have traditionally been performed using HbA1c as a surrogate endpoint for diabetes complications and mortality. This study introduces a novel approach to CUA modelling of diabetes whereby blood sugar control as measured by HbA1c is used to directly